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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,464	12/31/2003	Justin R. Barone	0066.03	9866
25295	7590	07/18/2005		EXAMINER
USDA, ARS, OTT 5601 SUNNYSIDE AVE RM 4-1159 BELTSVILLE, MD 20705-5131				NUTTER, NATHAN M
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 07/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/750,464	BARONE ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Nathan M. Nutter	1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 31 May 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-3 and 5-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3 and 5-13 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0804.

- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

**DETAILED ACTION**

This application has been re-assigned to Examiner Nathan M. Nutter in Art Unit 1711. All inquiries regarding this application should be directed to Examiner Nutter at telephone number 571-272-1076.

***Claim Objections***

Claim 2 is objected to because of the following informalities: The term polyurethane appears twice in claim 2.

Appropriate correction is required.

***Response to Amendment***

In response to the amendment filed 31 May 2005, the following is placed in effect.

The rejection of claim 4 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, is hereby expressly withdrawn.

The rejection of claims 1 and 4-8 under 35 U.S.C. 103(a) as being unpatentable over Donofrio et al (US 5808012) in view of Donofrio et al (US 5723588) and Fleischner (US 4818520), is hereby expressly withdrawn.

The rejection of claims 1-3 & 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Donofrio et al (US 5808012), is modified.

Claims 1-3 and 5-13 are pending.

The following new grounds of rejection are being made.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 5-13 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by Moechnig et al, newly cited.

The reference teaches the use of avian feather fiber (claims 5-8, inclusive) that is melt-blended through a convection oven at 182°C (claims 11 and 12) with polypropylene to form a composite structure (claims 1-3). The reference teaches the parameters of claim 10 at the first full paragraph of column 2, page 2132. Since the identical avian feather fiber is employed, the molecular weight of claim 13 at 10.7 kD would be inherent. Note the entire Introduction on page 2132, and the section titled "Fabrication of Wetlay Prepreg" at page 2133.

Claims 1-3 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Donofrio et al (USPN 5,808,012), previously cited.

The patent to Donofrio et al ('012) teaches the basic concept in the Abstract, with

Art Unit: 1711

specific polymers taught at column 2 (line 62) to column 3 (line 38), including polypropylene, polyethylene, polyvinyl chloride, polyamides, polymethacrylic esters, polyurethanes, polybutadienes and others (claims 1-3). At column 3 (line 52) to column 4 (line 5), the range of inclusion is shown. At column 4 (lines 53-63), and the patent claims, the reference shows the use of keratin. The processing temperatures are shown at column 6 (lines 1 et seq) to be "in excess of 60°C," which includes all of 61°C to 200°C, and embraces claims 11 and 12. Finally, note column 4 (lines 4 et seq) which teaches specifically the use of proteins, per se, and, further, teaches at column 4 (lines 53 et seq) that the protein may have a molecular weight of "usually more than 6kD...and usually below about 200 kD," which embraces the molecular weight of 10.7 kD recited in claim 13.

Claims 1-3 and 9-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Donofrio et al (USPN 5,723,588), previously cited.

The reference to Donofrio et al ('588) teaches the concept in the Abstract, with specific polymers at column 3, lines 1-25, including polypropylene, polyethylene, polyvinyl chloride, polyamides, polymethacrylic esters, polyurethanes, polybutadienes and others (claims 1-3). At column 4, lines 7-13, the range of inclusion is shown (claim 10). At column 5, lines 1-5, and the patent claims, the reference shows the use of keratin. The processing temperatures are shown at column 6 (lines 1 et seq) to be "in excess of 60°C," which includes all of 61°C to 200°C, and embraces claims 11 and 12. Finally, note column 4 (lines 14 et seq) which teaches specifically the use of proteins,

per se, and, further, teaches at the paragraph bridging column 4 to column 5 that the protein may have a molecular weight of "usually more than 6kD...and usually below about 200 kD," which embraces the molecular weight of 10.7 kD recited in claim 13.

Claims 1-3, 5 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Sano et al (USPN 5,718,954), newly cited.

The reference to Sano et al teaches the production of molded articles of keratin and a polymer in the Abstract (claims 1 and 9). At column 5 (lines 25-60) the patent shows the use of keratin, within the range of inclusion herein recited (claim 10), as an additive for urethane resins, polyester resins, epoxy resins, vinyl resins and the like (claims 2 and 3). The reference teaches throughout the disclosure and Examples that the processing of the mixture occurs below 200°C (claims 11 and 12).

Claims 1, 5 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Neuss (USPN 2,256,253), newly cited.

The reference to Neuss teaches the employment of keratin from horn meal (claim 5) in urea-formaldehyde resins (claim 1) at page 1, column 1 (lines 33-35) to form articles (claim 9). Note page 3, column 1 (lines 28-45) wherein the processing occurs at temperatures below the 200°C limit recited herein (claims 11 and 12) and comprises constituents that are within the ranges recited herein (claim 10).

Claims 1-3, 5, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Ubara (USPN 6,498,204), newly cited.

The reference to Ubara teaches the blend of keratin with thermoplastic elastomers, including those with styrene, ethylene, propylene butadiene, etc. (claims 1-3 and 5). At column 1 (lines 47-65) the reference shows the concept and the compositional limitations recited herein. The Abstract shows the compositional limitations to be within those recited herein (claim 10). Molded articles are disclosed at column 2 (lines 12-28) as recited in claim 9.

Claims 1-3, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Armenti et al (USPN 4,165,302), newly cited.

The reference to Armenti et al teaches the inclusion of keratin in filled compositions that may comprise polyethylene, polypropylene, polystyrene, acrylic resins and the like at column 1 (line 57) to column 2 (line 13) as recited in claims 1-3 for the production of molded articles (claim 9). Note column 2 (lines 11-13) wherein the "relative ratio of resin to filler, in a filled resin, can vary from about 19 to 1 (95 to 50), as recited in claim 10.

Claims 1 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Cartier et al (USPN 4,491,542), newly cited.

The patent to Cartier et al teaches the employment of a molded article (claim 9) from a composition comprising fibrous proteins, including keratin, with thermosetting resins (claims 1-3). Note column 1 (lines 11-13 and 36-48) and the Abstract for the broad concept. Note column 2 (lines 15-36) for inclusion of constituents as recited in claim 10 in a process of thermopressing at 200°C (claims 11 and 12).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3 and 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donofrio et al (USPN 5,808,012) as applied to claims 1-3 and 9-13 above, and further in view of Fleischner (USPN 4,818,520), previously cited, Frederick et al (USPN 2,857,237) or Licata et al (USPN 6,685,838), the latter two both newly cited, each separately or together.

The reference to Fleischner shows at column 1 (lines 16-23) that keratin is derived from animal parts, including avian feathers, nails, horns, hooves and hair. To choose such a source would have been obvious to an artisan.

The reference to Frederick et al shows at the paragraph bridging column 1 and column 2 that the fowl feathers may be separated into quills and shafts from the fibers and barbs. Note column 3 (lines 3-30) for these separate keratin portions shown to be used as fillers.

The reference to Licata et al shows at column 3 (lines 26-38) that avian feathers have fiber portions and quill portions to their keratin structures, as claimed herein

The primary reference to Donofrio et al (USPN 5,808,012) teaches essentially what is recited and claimed, except for the specific source of keratin proteins employed. The secondary references to Fleischner, Frederick et al and Licata et al, each and all

Art Unit: 1711

show the sources recited and claimed herein to be known. Subsequent employment of keratin from any such source in the manufacture of the molded product of the primary reference would have been *prima facie* obvious to an artisan of ordinary skill. No unexpected results have been shown, nor alluded to by applicants in this regard.

Claims 1-3 and 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donofrio et al (USPN 5,723,588) as applied to claims 1-3 and 9-13 above, and further in view of Fleischner (USPN 4,818,520), Frederick et al (USPN 2,857,237) or Licata et al (USPN 6,685,838), each separately or together.

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Art Unit: 1711

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Claims 1-3 and 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al (USPN 5,718,954) as applied to claims 1-3, 5 and 9-12 above, and further in view of Fleischner (USPN 4,818,520), Frederick et al (USPN 2,857,237) or Licata et al (USPN 6,685,838), each separately or together.

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Subsequent employment of keratin from any such source in the manufacture of the molded product of the primary reference would have been *prima facie* obvious to an

Art Unit: 1711

artisan of ordinary skill. No unexpected results have been shown, nor alluded to by applicants in this regard.

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The reference to Licata et al shows at column 3 (lines 26-38) that avian feathers have fiber portions and quill portions to their keratin structures, as claimed herein

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Claims 1-3 and 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armenti et al (USPN 4,165,302) as applied to claims 1-3 , 9 and 10 above, and

Art Unit: 1711

further in view of Fleischner (USPN 4,818,520), Frederick et al (USPN 2,857,237) or Licata et al (USPN 6,685,838), each separately or together.

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The reference to Licata et al shows at column 3 (lines 26-38) that avian feathers have fiber portions and quill portions to their keratin structures, as claimed herein. The primary reference to Sano et al (USPN 5,718,954) teaches essentially what is recited and claimed, except for the specific source of keratin proteins employed. The secondary references to Fleischner, Frederick et al and Licata et al, each and all show the sources recited and claimed herein to be known. Subsequent employment of keratin from any such source in the manufacture of the molded product of the primary reference would have been *prima facie* obvious to an artisan of ordinary skill. No unexpected results have been shown, nor alluded to by applicants in this regard.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new grounds of rejection.

Art Unit: 1711

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan M. Nutter whose telephone number is 571-272-1076. The examiner can normally be reached on 9:30 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nathan M. Nutter  
Primary Examiner  
Art Unit 1711

nmm

13 July 2005